Application No.: 10/849,683

Response to Office Action of 06/24/2005

Attorney Docket: NORTH-601B

Amendments to the Claims:

1. (Currently Amended) A process for forming a preform having a first portion and a second portion at an angle to the first portion, the first portion being curved, for use in a composite structure having at least one curved portion of a specific length, the process comprising the steps of:

folding the first portion onto the second portion;

providing a stretchable a-preform fabricated from bundled fibers for permitting the first portion to be curved without crumples; capable of expanding the length of the threads in rows parallel to the direction of curvature over a length equal to the length requiring curvature, and

stretching the <u>first portion</u>; portions of the preform requiring curvature in a sine-wave pattern.

unfolding the first portion off of the second portion; and forming the first portion into a curved without crumples.

- 2. (Original) The process as set forth in claim 1 wherein the preform is made of woven material.
- 3. (Currently Amended) The process as set forth in claim 2 wherein the step of providing an expandable a preform capable of expanding the length of the threads in rows parallel to the direction of curvature over a length equal to the length requiring curvature includes the step of forming the preform with discontinuous threads. threads in rows parallel to the direction of curvature over length equal to the length requiring curvature, such that the gaps between each thread row are spaced from the gaps in the adjacent tread rows.
 - 4. (cancelled)
- 5. (Currently Amended) The process as set forth in claim 1, or 2, or 3, or 4, wherein the step of step of stretching the portions of the preform requiring curvature in a sine wave pattern includes forming is accomplished in a sine wave shaped die.
- 6. (Currently Amended) The process of claim 5 1 wherein the preform is a 3D woven PI shaped cross-section preform having first and second foot portions and first and second upstanding leg portions for use in a structure having at least one curved portion of a specific leg.

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- 7. (cancelled)
- 8. (cancelled)
- 9. (cancelled)
- 10. (cancelled)
- 11. (cancelled)
- 12. (new) The process of claim 3 wherein the discontinuous threads are in rows parallel to the direction of curvature over length equal to the length requiring curvature, such that the gaps between each thread row are spaced from the gaps in the adjacent thread rows.
 - 13. (new) The process of Claim 5 wherein the sine wave shaped die is tapered.
- 14. (new) A process for forming a preform having a curved portion in a plane, the curved portion having a progressively increasing radius from a first edge to a second edge, the process comprising the steps of:

providing a stretchable preform fabricated from bundled fibers; stretching the preform with mating dies for progressively expanding the preform from the first edge to the second edge; and

shaping the curved portion of the preform without crumples.

- 15. (new) The process of Claim 14 wherein the curved portion is a foot portion of the preform.
- 16. (new) The process of Claim 14 wherein the curved portion is a leg portion of the preform.
- 17. (new) The process of Claim 14 wherein the fibers of the bundled fibers are discontinuous.
- 18. (new) The process of Claim 14 wherein the mating dies define molding surfaces having a tapered sine wave configuration.
- 19. (new) The process of Claim 18 wherein the stretching step comprises the steps of:

disposing the preform between the mating tapered sine wave dies; aligning the inner radius to a small amplitude end of the mating tapered sine wave dies; Application No.: 10/849,683

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aligning the outer radius to a large amplitude end of the mating tapered sine wave dies; and

closing the mating tapered sine wave dies onto the preform.

20. (new) The process of Claim 14 wherein the shaping step comprises the step of expanding the stretched preform about a die surface having a final desired shape of the preform.